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ON THE EMPIRICAL<sup>1</sup> METHOD OF ECONOMIC  
INSTRUCTION.

I.

FEW men of intelligence fail to recognize in the abstract the importance of economic science or the great educational and practical value of its study. However, it must be admitted that economics in the concrete does not command a full measure of interest or respect. Distrust is, in fact, more or less characteristic of the attitude toward economics taken alike by scientists, students, and practical men of affairs. To formulate completely the causes of this distrust would be a difficult and laborious task. Much of it is doubtless due, as economists have been wont to assume, to prejudice and misconception. But it is equally certain that a greater portion rests upon a valid basis and that among the valid causes of the disesteem of economics stands inadequate economic teaching.

The teaching of economics has until quite recently received

<sup>1</sup> The word empirical is used throughout this paper in default of a more unequivocal term. Empirical as here used must not be understood in the technical sense in which it is currently applied to a school of logical writers. It implies here simply a method of instruction based on the facts of immediate experience.

comparatively little consideration. In the discussions of economists this subject has been overshadowed by questions of the nature and method of the science. The reason for this is obvious. The methods of teaching a science are to a great extent corollaries of the nature and method of the science itself and therefore the character of a science must be determined before the proper method of teaching it can be developed. Still granting this the subject of economic teaching has been unduly neglected. In their eagerness to fix the character and methods of economics beyond dispute, economists have failed to draw such inferences in regard to teaching as have been warranted by the progress of the science.

The past decade has seen much advance in economic thought, and the inadequacy of our current methods of teaching is at last forcing itself upon the attention of economists. This is manifest in a widespread, though in general vague, feeling that something is wrong with present methods and more definitely in a number of recent attempts to re-present economic discussions in accordance with what are conceived to be the demands of advanced pedagogical and sociological theories and to adapt the study of the science to the needs of pupils in secondary schools and the demands of those in college contemplating a business career. Most of these attempts are fragmentary, some are suggestive, none bear the marks of relative finality. In general, they are rendered inadequate through what seems to be either a desire to make the study of economics above all disciplinary, relatively regardless of the character of the science and the specific object of its study, or a lack on the part of the authors of a clear conception of the character of the science and the primary object of scientific instruction.

Undoubtedly the time has not come when a complete and satisfactory method of economic instruction can be formulated. However, it seems now possible and, in view of the situation just outlined, highly desirable, to define more clearly the general aim of economic instruction and to forecast tentatively its general methods. We may at present, I take it, lay down and fully

justify certain definite, general propositions which if accepted and intelligently interpreted by teachers would bring the instruction as a whole more into harmony with the probable ultimate conception of economics and the object of economic study, and at the same time do something toward removing the prejudice which exists against the science. The most essential of these propositions may be stated as follows:

1. Adequate instruction in economics must give to the student an intimate knowledge of the economic structure of society.
2. Adequate economic instruction must proceed from a knowledge of economic structure to principle rather than from a knowledge of economic principle to structure.
3. In the study of the economic structure, personal observation and inference from facts must to a large extent supersede instruction by means of text-books and lectures.

It is the purpose of this paper to show that these propositions rest upon a sound scientific foundation, to interpret them in terms of method, to prove the superiority in practice of teaching which is in harmony with them over the current methods of economic instruction, and, lastly, to illustrate their significance by an outline for economic study in harmony with the method which they imply.

## II.

The scientific validity of the propositions just stated is the most vital point at issue in this discussion of the empirical method of economic instruction. It requires, therefore, careful proof at the outset. Pursuant to this end, we shall attempt to show that these propositions are but corollaries deduced from the nature and method of economics as a modern science and the method of modern scientific instruction. Modern science, whatever its specific field, aims to present a systematic account of empirical knowledge in causal terms; *i. e.*, it aims to present the situation as it is in terms of the forces at work. Looking at the material with which they deal, we may divide modern sciences into two broad classes. The first class, including the mathematical and physical sciences, deals with material which

in the main is assumed to be fixed in character and relationship. The second class, including the biological sciences, deals with material and relationship in process of cumulative change. Both groups have the same general aim as expressed above, but this difference in the conception of the material concerned has produced a wide divergence in the character and methods of the sciences of the two groups. The sciences of the first group seek in the main to formulate the universal and immutable laws of the nature and relationship of the material with which they deal; they study their material primarily to discover a natural classification of forms; *i. e.*, they are mainly taxonomic. The sciences of the second group, on the other hand, while they are concerned, are not primarily concerned with the classification of forms, nor in so far as they are thus concerned can they seek a universal and immutable taxonomy. In furtherance of the general scientific aim they are concerned primarily rather with the study of process and genesis. In short, sciences of the first class study primarily conditions of fixed relationship; those of the second class, processes of adaptation. Now the vital question from the standpoint of our discussion is, with which of these groups is economics more closely allied? A brief review of the recent history of the science will furnish an unequivocal answer.

For more than a generation economics has been a science in process of transition. Fifty years ago the leaders of economic thought in England considered the science of political economy as practically complete. As they had developed it economics was a systematized body of knowledge based upon the laws which were supposed to underlie the greatest production of wealth or the greatest economic welfare. These laws were supposed to be derived from nature and human nature, and were therefore considered universal and immutable. In classifying economic forms on the basis of these laws the English economists sought and believed that they had built up a science of universal economic normalities—a complete economic taxonomy—and this they considered to be the end of their labors.

The science as thus developed belonged, therefore, unequivocally to the first of the two classes distinguished above, or rather would have so belonged had this distinction then been made. As a matter of fact, however, economics was at this time in its conception and development fairly typical of all sciences. Not only the physicists but also the botanists and zoölogists, like the economists, were then seeking for the natural classification. Economics differed essentially from these sciences only in its claim to greater completeness of taxonomy. Unfortunately, however, alike for the work of the economists and biologists, this was the eve of a great scientific revolution. Scarcely had the boast of completeness been made by economists when the theory of evolution was formulated, and soon the distinction began to be drawn between sciences dealing with classification of fixed materials and those concerned primarily with processes of development. A new group of sciences was ideally set off—the biological—and its members were soon actually in process of transformation from taxonomic studies—sciences of natural classification—to studies of life processes and genetic accounts of living organisms.

That this scientific movement should influence economics was inevitable. Indeed, before the middle of the century German economists had anticipated in part its economic bearing by asserting the principle of relativity, and after the announcement of the theory of evolution their contentions—that there was no universally normal industrial structure, and that the economic process could not be interpreted by the positive taxonomic science which had been built up—precipitated a vigorous economic controversy. In the midst of this struggle, which uprooted the old positive faith, the evolutionary idea was definitely applied to the study of society. It was demonstrated that not only the individual man physically, but the social relations of man collectively, had been subject to a process of gradual evolution from simple to more complex forms. With this demonstration the religious and naturalistic conception of society perforce fell to the ground, and the hypothesis was put

forth that society must be looked upon as an organic entity, a living organism with definite life processes, developing in obedience to evolutionary laws. This hypothesis was speedily seized upon by economists of the historical school and applied to the economic organization—an integral part of the social structure. Such was the notorious organic concept.

Now, however wide of the truth this concept, as stated, may have seemed, and however much it may have been the occasion for the abuse of reason by imaginative enthusiasts, fair-minded men could not fail to perceive that it rested upon a true distinction which must inevitably remove the social sciences, economics included, from the taxonomic and ally them with the biological group. This was the distinction between fixed material and relationship, on the one hand, and developing material and relationship on the other. In other words, the economic organization might differ essentially from a true biological organism, and it might fall far short of being in the truest sense an organic entity, still as soon as the theory of evolution was comprehended, it was evident that economics must become a science, not of the greatest production of wealth, or greatest economic welfare, a science founded solely upon universal and immutable laws of nature and human nature, nor a science of economic normalities, taxonomic merely, but a study of life, of the life process and genesis of the economic organization, essentially cognate with the biological sciences. Such, indeed, is the conception of the science which has grown out of the economic controversy of the past half century.

If the conclusion just reached be granted we should now proceed to inquire more carefully into the specific character and aim of the sciences of the second group, and of economics as one of them. We have seen that these sciences aim in general to present systematic accounts in causal terms of groups of facts whose relationships are subject to cumulative change. Now the changes of relationship which these sciences have to consider are of two general kinds: (1) within the group there is a definite regularly repeated process of change which may be

termed the life process, and (2) the group itself is undergoing a definite progressive change, in general, from a simple to a more complex organism or organization. Such being the case these sciences in furtherance of the general scientific aim have evidently two main objects. These are, first, to give systematic and causal accounts of the organisms or organizations as they are, and, secondly, to give systematic and causal accounts of the processes of development of these organisms or organizations.<sup>1</sup>

The attainment of the first of these ends involves three logically distinct lines of study: (1) a study of the forms of the organism or organization; (2) a study of the life processes going on within the organism or organization, and (3) classification of these forms and processes. The attainment of the second aim involves the same lines of study, historically and comparatively, with special reference to the forces at work tending to modify structure of organism or organization and the processes going on within. This analysis of the scientific aim in connection with material involved gives us the logical division of the sciences belonging to the second group. That the analysis is essentially correct is evidenced by the fact that these divisions do in fact correspond to the essential divisions of complete organic sciences. Thus botany comprehends, first, morphology (including histology), physiology, and systematic botany, or study of form and process leading to classification, and, secondly, a number of lines of study intended to lead to a genetic account of plant life.<sup>2</sup>

Now, since economics, by virtue of the changing relation-

<sup>1</sup>Of course, in a sense, the second of these objects is included in the first, since the organism, as it is, is a product of the past development, and can be completely understood only in the light of this development. But assuming the present situation as it is, *i. e.*, simply as having become, then we may, for convenience, without scientific inaccuracy, separate its study into an account of the life processes now going on within the organism in terms of causes now operating, and a causal account of the genesis of this organism.

<sup>2</sup>This second group of studies is better worked out in zoölogy, where we have phylogeny, a study of the origin of species; ontogeny, a study of the origin of individuals; embryology, paleontology, studies of the progressive development of individuals, etc.

ships with which it deals, belongs to this second group of sciences, it must have the same double object as described above, and therefore logically should be organized with the same specific divisions as the other sciences of this group. That is, it should consist, first, of a study of economic forms and processes, and their classification as they exist, and, secondly, of a study of forms and processes, historically and comparatively considered.

Thus much seems indisputable but it does not completely answer the question, What is the specific character of economic science? In order to answer this question we must go one step further and determine (1) the nature of the material with which economics deals, and (2) the nature of the forces which determine the organic relationships of this material. The economic material evidently consists of all facts connected with the satisfaction of human wants through material (physical) means, attained by human effort. The forces which determine the organic relationships of this class of facts are the activities of the individual seeking the satisfaction of wants through material means, these activities being conditioned by a general physical environment and a general psychological environment manifested in current opinion and in customary, legal and traditional institutions such as private property, competition, etc. The chief of these organic economic forces is evidently not a conditioning, which tends to operate with constant effect, but the active element, *i. e.*, the human activity seeking the satisfaction of wants through material means. Human activity then, the expression of human choice, is the chief molding or causal force in determining the organic relationships of the economic material.

But we cannot stop here. All economic activity, every expression of economic choice, is not of equal organic force. We must then seek for that particular class of activities, that kind of choice, which is most potent in determining economic relationships. Looking at the modern economic situation from this point of view we are at once struck with the central position occupied by the business man—the manager of pecuniary

enterprise. Under the institutions of private ownership, and comparatively unrestricted initiative and competition, the self-directing business man seems to hold the initiating and discretionary powers in the modern economic organization. As the controller of wealth he makes economic activity wait upon his initiative, and by virtue of the same control he determines in what direction and to what extent the industrial forces shall be employed and how they shall be organized.<sup>1</sup> This discretionary activity of the business man is, of course, not the expression of his arbitrary will uninfluenced by the choice of other economic factors. But he at least acts the part of umpire. He studies the forces at work determining choice and decides what demands are most pressing and how they can best be met. But, though should we for the sake of argument concede him to be a mere indicator of the resultant of choices, still it is through his activity that the causal forces in the economic organization tend to work out their organic effect. In his activity then we see the chief formative force of the modern economic world. Therefore if economics in the spirit of modern science is to give an account in causal terms of the process of modern economic life it will approach the subject from the side of the activity of the business man or through the business situation.

Economics, then, as a modern science, should consist of the following organic divisions: first, of (1) a study, in terms of the business situation of the forms of the organization through which man seeks the satisfaction of his wants by material means; (2) a study in the same terms of the processes of this organization, and (3) a classification of these forms and processes; and secondly, of these same lines of study taken historically and comparatively. That is, it should consist first, of a scientific reconstruction of the economic organization as it at present exists, and second, of a study of the genesis of the economic organization.

<sup>1</sup>Exception may be taken to this emphasis of the freedom of choice of the business man. It may be asserted for example that the choice of the consumer is as free and potent as the choice of the business man. Yet it is easily seen that the choice of the consumer avails only in so far as it is acquiesced in by the business man.

Returning now to our fundamental propositions we find that they follow immediately, from the nature and method of economic science as we have now conceived it, and the method of modern scientific instruction. The first proposition calls simply for a study of the first two organic divisions of the science; the second demands merely that the scientific order be followed in the study of the first three divisions of economic science, and the third is but the adoption into economic instruction of the method of study universally employed in the teaching of modern sciences within the group to which economics belongs.

### III.

Having shown that our fundamental propositions are sanctioned by the nature of economic science, it will now be well, at the risk of some repetition, in order to facilitate the discussion of their practical merits, to interpret these propositions clearly and concisely in terms of general method, and to contrast the method which they underlie and its implications with the methods of economic instruction which have been most in vogue.

In brief, then, these propositions demand that economics be regarded as the study of a definite functioning organization, having definite forms, including definite processes, and possessing a definite life history; that the student begin economics with a study of the forms and processes of this organization as it now exists; that so far as possible this study of economic forms and processes be in the nature of direct investigation, *i.e.*, that the actual economic forms and processes themselves, whenever possible, or at least records and statistics concerning them, be studied, instead of formal accounts of them in conventional text-books; that the student be led, through this study of fact, to discover economic cause and gradually to build up for himself the system of economic laws or principles which the organization objectifies. In other words, these propositions demand that the study of economic taxonomy, or the principles of economics, be based on a direct study of economic facts and that the principles

be derived by the student from the facts rather than being merely illustrated by them. To guard against misapprehension it should be definitely stated and emphasized that while the method thus outlined is empirical it is not aimless. It is not a plan for ridding teacher and student alike from the consideration of economic problems and therefore from the necessity of severe mental effort. This study is more than merely descriptive in its results. The economic problem and the taxonomic end are as clear in the mind of the teacher by this method as in the case of orthodox instruction. Hence the student is not sent out, as in purely descriptive work, to gather facts at random for the facts' sake, or with the idea that all economic facts are of the same causal value. Rather he is guided at the beginning and throughout to the selection of facts which involve definite economic problems, and as this guidance proceeds from the beginning with a definite comprehensive aim, he enters at once upon a systematic solution of the problems of the economic organization. In short a systematic and causal account of the economic situation is the definite aim of this method, and in attaining this end the student is so guided that from the beginning he is grappling with economic problems which rise out of his observation and experience.

In contrast with this general method of instruction are what may for convenience be termed the Classical and Historical methods. The Classical method, which has come down to us from the orthodox English conception of political economy, aims primarily to ground the elementary student in the principles of economics, *i. e.*, to furnish him as soon as may be with a complete orthodox economic taxonomy. In logical pursuit of this aim it launches the student at the outset into definition and principle, concerning itself with the facts of industry only in so far as they are necessary for elucidation and verification of the general propositions laid down in the text-book or by the teacher. It assumes that the general information of the average student includes a sufficient working knowledge of economic facts, and it regards a direct study of the facts, before the mind of the student has been thoroughly fortified with the principles, as

likely to result in a mass of disconnected impressions or, at least, in a straying away from sound doctrine. In short, this method is a ready way of imparting to the student the economic normalities assumed by classical political economy, in order that he may be thoroughly equipped to dissociate in the affairs of everyday life those facts which are natural, therefore normal, therefore to be sanctioned, from those which are artificial, therefore abnormal, therefore to be questioned as to their economic validity.

The Historical method, on the other hand, is an inheritance from the German economists who, with their adherents, posed, in the period immediately following the enunciation of the evolutionary doctrine as the historical school of economists. The Historical method, like the Empirical, aims to present to the student the account of an actual economic situation, and to this end lays special stress upon the study of fact. Its resemblance, however, to the Empirical method, herein described, ends at this point. The economic situation which it aims to present is not that of the present but that of the past, and it minimizes to the last degree the consideration of economic principle, on the supposition that we are not yet familiar enough with the facts of industrial development to make profitable serious attempts at classification. Thus, while it has no real kinship with the Empirical, it is essentially the antithesis of the Classical method. Strictly interpreted the Historical method is reduced to the study of industrial history.<sup>1</sup>

Now when we come to inspect closely the specific differences between these methods, we find that they all rest upon two pairs of antithetical assumptions. First, it is to be noted that, while each of these methods recognizes the necessity of a knowledge of facts in the study of economics, the Classical method, in opposition to both the Historical and Empirical methods,

<sup>1</sup>In thus describing the typical methods of economic instruction it is not intended to imply either that the actual instruction in economics in any school or college is given on exactly these lines, or that any economic writer now adheres exactly to the notions underlying either of the methods described. This paper therefore is not intended to be critical of any person or institution.

assumes on the part of the student a sufficient knowledge of the facts drawn from everyday experience to serve as a basis for the study of economic laws and principles. As this classical assumption involves primarily a question of the nature and aim of the science, a subject which has already been considered, it will be well to dispose of it at this point.

It is not to be denied that the average student who enters college at the age of eighteen has acquired through contact with everyday life a large store of economic facts. He is probably familiar with certain mechanical processes of production; he knows the uses of money; he perhaps understands the general nature of markets and the ordinary methods of bargaining. In an untechnical way at least he may be aware that capital, land, and labor co-operate in production, and that the product of industry is distributed as interest, rent, wages, etc. In short, we may concede, for the sake of argument, that he possesses a stock of information covering in some sort the whole field of industry. But the really vital question in this connection is not concerning the amount of the student's information, but the quality of it. The knowledge of the prospective student may be great, but it is superficial. He may know to a great extent what might be termed the mechanical and resultant facts of everyday life, but of the causal or availing facts he is, on the average, densely ignorant. Of the organizing forces, the economic ideals, the subtle play of motives, the strategic maneuvering, and even of the nature and operation of the physical forces which underlie the economic organization which he sees—of all these he is oblivious. In a rough way, we might perhaps say that he is acquainted with economic forms, but to the relation of these forms and to the processes which relate them his acquaintance does not extend.<sup>1</sup> Nor can these facts be acquired by desultory observation. In the same way that this economic knowledge is

<sup>1</sup>It is this ignorance that has given some color of justification to the proverbial assertion that economic students are innocent concerning economic affairs. It is well known that workers and men of affairs alike are wont to laugh at doctors of philosophy who, trained in the chamber to make mathematical and logical solutions of the problems of economic life, assume to teach them and their sons the complex motives and activities that govern the conduct of industry.

acquired, so do we also from early childhood learn the external characteristics of plants and flowers. But the botanist would nowadays be considered extremely foolish who should set the elementary student to a study of taxonomy on the assumption that his desultory observation had sufficiently equipped him with the knowledge of the facts of plant morphology and physiology. Therefore, unless we consider the industrial system less complex in its make-up, we are forced to the conclusion that it is equally foolish to expect of the economic student a more thorough relative knowledge of economic structure and function. But such an assumption would be manifestly absurd. It is the baffling complexity of present-day industrial life and the quick changes in structure and process that have prevented thus far the complete organization of economic science on a basis analogous to that of botany and its kindred biological sciences. The botanists study structure and function that have been evolved in obedience to a few simple chemical and mechanical laws, but the structure and function which the economist studies, result, not only from the operation of such laws, but rests upon a network of subtle psychological facts and laws, and as these economic forces are more complex than the forces that underlie plant life, so is economic more complex than botanical structure and function. This greater complexity, together with the secrecy characteristic of the struggle for pecuniary gain are conditions which evidently place a knowledge of the availing facts of the economic organization beyond the reach of the casual observer. Only careful, systematic study will suffice to disclose them and their significance.

If the argument be granted thus far, the question raised by the classical assumption is then reduced to this: Is a casual knowledge of the superficial facts of economic life, however great, a sufficient basis for the systematic study of the principles of economics? The answer to the question depends upon the conception which is held of the nature and aim of economic science. If economics is conceived to be a science which deals with fixed materials and relationships whose aim is merely to formulate a set of economic normalities on the basis of some

arbitrarily chosen general norm, such as greatest production of wealth, then indeed, a superficial knowledge of facts will suffice as a basis for the study of principles, since on this conception of the character and aim of the science the facts are useful merely by way of illustration and verification. But we have already shown that such a conception of the nature and aim of economic science is by virtue of the material with which it deals not tenable. Economics aims to give an account in causal terms of the economic organization as it is and in process of becoming. In such a study fact and cause must form the immediate basis of classification. Nor can classification free itself from the necessity of taking into consideration any fact by the convenient method of denominating it artificial, abnormal, or unnatural. From the standpoint of modern economic science then the classical assumption will not hold. As a matter of fact this assumption belongs to an earlier time when not only was economic life simpler, but so also was the conception of economic science.

The second pair of antithetical assumptions upon which the differences between the Classical, Historical, and Empirical methods of economic instruction rest, relate directly to general principles of teaching. In this respect the Empirical method assumes that the method of teaching a science should be a corollary of the character and method of the science itself. That is, it assumes that the teaching should cover the ground subsumed under the organic divisions of the science in their logical order, and that in the same way that the science grew up out of practical problems confronting those who developed it, so should it be made to grow for the student.<sup>1</sup> It is in obedience to this assumption

<sup>1</sup> This statement is obviously not meant to imply that the elementary student should be led through all the devious turnings and twistings, through which the discussion of any particular problem passed, as, *e. g.*, that of rent, nor does it mean that the problems of the science as a whole should be presented in the order of their appearance in the history of economic theory. It means simply that the interest of the student in any problem, as that of rent, should be aroused by the same kind of contact with actual facts, skillfully selected by the instructor for this purpose, as aroused the interest of economists in that problem. Although, in accordance with our plan, presentation of the problems of the science as a whole should be in the order of their logical sequence in the science.

that the Empirical method of economic instruction begins with the most direct study of the facts of the present economic organization and leads the student gradually to derive from this study of fact the laws and principles of the science. Both the Classical and Historical methods, on the other hand, proceed in unequivocal opposition to this principle. Each deals, it is true, with an organic division of the science as we here conceive it, *i.e.*, the Classical method with economic classification; the Historical method with economic genesis. But it is evident that in the development of the science, classification, or systematic economics, was necessarily a result of the direct study of form and process, and that the study of the genesis of the economic organization could not have arisen until after some systematic study of the organization as it actually existed at the time of the study. Therefore our general principle as applied to economics requires that classification and the study of genesis rest on a study of the forms and processes of the existing economic organization. Nor can the opposition of the Classical and Historical methods to this principle of instruction be said to result merely from the conception of the science which we have adopted. If we should leave aside the conception and adopt the pre-evolutionary or classical notion in regard to the character of economics, the opposition would still be apparent. For even classification based on normalities must have proceeded from the study of facts and in the older conception of the science, the study of genesis, if it were considered at all, occupied a position and took a form somewhat analogous to an incipient caudal appendage. The comparative validity of these antithetical assumptions touching the general principles of scientific teaching, so far as they relate to the economics, will appear from discussion which follows.

#### IV.

With a clear conception of the alternative methods of economic instruction and their implications we are now in a position to proceed to a discussion of their relative practical merits.

Because of the attitude of those who advocate the classical method, it will be well before stating the specific criteria for this discussion to consider for a moment the general object of economic instruction. The primary general aim of economic teaching is undoubtedly, (1) to put the student in the way of acquiring a complete scientific knowledge of the facts and forces in the given field of study. This then is the general criterion for testing the practical merits of any method of economic instruction. The specific criteria, therefore, relevant to the discussion in hand should be such that they together test the ability of the methods considered to attain this general object. However, as commonly stated, economic instruction has a threefold aim; that is to the statement above are added as general objects, (2) to give the student general intellectual discipline, (3) to give the student the ability to pass judgment upon the economic validity of individual action and public policy.

Now so much stress has been laid upon the general disciplinary value of the Classical method, and upon its value from the standpoint of practical utility, that a discussion of the typical methods of instruction, based upon criteria conceived to be altogether non-disciplinary and non-utilitarian, might be considered unfair and inconclusive. It is necessary, therefore, to point out what really should be obvious, namely, that at bottom the so-called second and third objects of economic instruction are identical with the first. In regard to the second object, a moment's reflection will convince one that a method which gives the student the greatest degree of intellectual discipline will also best fit him to acquire a complete scientific knowledge in any field of study; and, *vice versa*, that a method of study which has put a student in the way of acquiring the most complete scientific knowledge in any particular field, must have given him at the same time the highest degree of general training in accurate observation, reasoning power, etc., that the study of the science is capable of affording. Turning to the third object, if practical utility be admitted as a legitimate object of economic instruction, it is evident that the method which should give the student

such a body of knowledge and such a degree of intellectual discipline as to put him in the way of acquiring a complete scientific understanding of the economic organization would fit him to pass judgment upon the validity of individual economic action and public policy, whatever the standard of validity assumed, as far as it were possible for a study of economics to do so.

Since, then, the three objects of economic instruction, as stated above, are really identical, the specific criteria for judging of the practical merits of methods of instruction will obviously be the same whatever the standpoint taken as to the general object of economic instruction. Now the attainment of the general primary aim of economic teaching, as stated above, seems to require that the method of teaching be calculated (1) to arouse in the student a deep and abiding interest in the economic organization; (2) to give training in the power of accurate and discriminating observation of economic facts and forces; (3) to give to the student thorough training in reasoning from economic data; (4) to give the student a wide and systematic acquaintance with actual economic facts. These four specific requirements, then, will be the criteria of our present discussion. That these criteria do actually test the disciplinary and utilitarian merits of the methods of instruction proposed, will receive supplementary proof as the discussion proceeds.

1. That thorough training in the power of accurate and discriminating observation of economic facts is an absolute essential of adequate economic instruction is easily proved. The economic organization is not only exceedingly complex, but its forms and processes are changing. These forms and processes do not result as in the case of the lower biological organisms, merely from the action of a few mechanical laws acting upon definite chemical combinations, but also from human motive working through human activity. The problems, therefore, which the organization presents, and which the student must learn to solve if he is to be put in the way of a complete scientific knowledge of the organization, are based upon forces not only manifold but kaleidoscopic in their combinations. Human

activity in the economic field cannot be deduced from a few simple laws of nature and human nature nor from historical accounts of some past industrial period. It depends not only upon fundamental laws of nature and human nature, but upon the subtle play of human motive and the strength of opposing human forces in conjunction with complex physical and social conditions. If the student is to solve the problems of the economic organization, then, he must learn to discover in actual economic affairs all the subtle forces at work, to separate unerringly the essential from the non-essential, the causally connected, from the merely concurrent, and to estimate the relative availing importance, under varying circumstances, of innumerable facts and forces. In other words, the kind of observation required in economic study is not the mere looking at things and the gathering of facts haphazard, but is discriminating to the highest degree. Furthermore, the necessity to the economic student of training in the power of accurate and discriminating observation is enhanced by the peculiar circumstances under which he is obliged to work. The student of biology can isolate his material, can initiate processes, can create environment, adding to or subtracting from the forces at work, and can retain his problem indefinitely in the laboratory for leisurely inspection. But the problems of economics do not thus readily lend themselves to manipulation and observation. While the facts are all about us, not only does the pecuniary struggle lead to a concealment of the forces underlying actual economic phenomena, but the forces at work are subject to a constant change beyond the control of the student, and the problems must be studied in all their native complexity.

Such being the nature of the economic organization and the conditions under which its problems must be studied, it seems perfectly evident that the training in the power of observation needed by the economic student cannot be acquired in the process of accumulating that fund of superficial information presupposed by the Classical method of instruction. Nor can it be acquired in the class-room study of principles which constitutes

the essence of that method. The discussion of logical formulæ learned in the class room or from the text-book and illustrated by arbitrarily chosen facts manifestly makes no demand upon the faculty of observation whatever may be its disciplinary or practical value. In fact the Classical method inevitably tends to inhibit the use of the powers of observation by giving a spurious value to purely deductive means. The case against the Historical method is almost equally strong. Unless we adopt in the study of the past the research method not only does this study make no direct demand upon the power of observation, but it also tends to inhibit observation by deliberately drawing the attention of the student away from what is to statements concerning what has been. Even, however, if the research method in the study of the past be adopted the extent of materials and the remoteness from present interest make it extremely difficult to maintain the true attitude of discriminating observation. As a matter of fact, in the Historical method as actually carried out, discriminating observation has in general given place to a mere heaping up of facts in the hope that principles would somehow spontaneously arise out of them. In short, then, the training in the accurate discriminating observation which is a necessary equipment of the student of economics can be obtained only, if at all, by putting him at the outset in actual contact with the facts and forces of the economic life of the present, and by careful guidance leading him to discover thereby and solve the actual problems of the existing economic organization, that is by adopting the Empirical method of instruction.<sup>1</sup>

2. The necessity of arousing in the student a deep and abiding interest in economic problems if he is to be put in the way of acquiring a complete scientific knowledge of the economic organization is obvious. Without this deep and abiding interest the student will be and remain unobservant and unreceptive of

<sup>1</sup> It is to be noted that the conclusion holds equally well whether it be conceived that this training in observation is desirable as a means of putting the student in the way of acquiring a complete scientific knowledge of the economic organization, or primarily for its disciplinary effect or for its practical utility to the student as a citizen or man of affairs.

the facts, impotent in reasoning, and in the end devoid of that discipline and of that sound judgment in regard to economic action and policy upon which the advocates of the Classical method of instruction lay such stress. The strongest indictment against the Classical and Historical methods is that they have thus far failed to arouse this interest in the average student. In spite of its supreme practical significance economics retains in the mind of the average student today its old title of the "Dismal" science.<sup>1</sup> Reasons for this lack of interest, nay for this positive dislike, are not difficult to discover in the typical methods of instruction. The impressions of the first half year of contact usually determine the interest of students in any line of study. The average student who begins the study of economics in school or college is still immature. But it is admitted that interest, especially in the immature mind, is derived from an actual definite, concrete situation in which the person finds himself and which he must work out of. In other words, interest attaches to the definite, the known, the concrete, the personal. Therefore, even in college teaching, if interest is to be aroused and retained to the fullest degree, we must proceed from the definite to the indefinite, from the concrete to the abstract, from the simple to the complex, from the known to the unknown, from that which, because of definite reality to the individual, possesses a vital, personal, emotional interest, to logical explanation. Now the Classical method of economic instruction violates all these criteria of interest, while the Historical method fails to conform to their most essential requirements.

The Classical method by neglecting the facts of actual economic life and endeavoring in the first half year of instruction to teach the principles of economics, forces upon the student at the outset the indefinite, the abstract, the complex, the unknown. It divorces the student from life lest he be led to unwise conclusions and feeds him upon cut-and-dried theories; it debars him from the warmth of interest in an actual situation which comes from

<sup>1</sup> It might be well to except from this statement cases where, the subject being taught through lectures, the students are attracted to it by its "snap" aspect.

personal investigation, discovery, and intellectual ownership and offers him logical explanations of unknown things, the philosophy of an unknown life. To be sure he is expected later to verify the philosophy, to discover the practical as well as the logical correctness of these explanations, but in the meantime the vital lack of realism has in the majority of cases destroyed the root of interest.

To illustrate very briefly, let us take the case of wages. A student is given a logical explanation of general and particular wages which he passively accepts and which, if he be of a logical bent, he may manipulate with great skill for the solution of all labor questions which arise in the class room. But in the majority of cases the theory thus acquired remains merely a class-room formula. Real, vital, personal interest it does not ordinarily excite, because it is not the answer to any question which has risen spontaneously in the mind of the student. It is not to him the explanation of any actual situation in which he is to any degree involved. Only when he comes into actual contact with life and has brought home to him, on the one hand the actual conditions under which laborers work and live, their thoughts and habits, their hopes and ideals and the real meaning to them of higher or lower wages, and knows, on the other hand, the meaning and method of actual operations in pecuniary enterprise, the purposes and motives of capitalists, and the effect of higher or lower wages on the problems which confront them in the strenuous struggle, only then, when he can put himself into the place of worker and master is his interest likely to be seriously and permanently aroused in theories of wages. Or, to take another instance, the student is taught to demonstrate logically the theory of international trade—that foreign trade takes place not because of a difference in absolute but in relative costs. But this logical demonstration must stand to the average student merely as a formula useful in the class room and at the examination. For he has never been led to discover and wonder at the essential fact that he actually uses goods which have been purchased and brought from a country where the cost of producing

them is greater than at home; nor is he conscious of or curious concerning the character, extent or direction of that foreign trade which every day crosses his path, nor has he been led to discover and reason upon the actual lines of trade, its actual mechanism, the life history of its commodities or the vital part it plays in his life and the life of his society.<sup>1</sup>

The Historical method of study, while it has the merit of dealing first with the simple, the concrete, and the definite, fails even more conspicuously than the classical to involve the student in actual situations from which he feels the necessity or the desire of extricating himself. It does not bring him into actual contact with things. It must ever be content with imparting second-hand information and reviewing situations the chief interest in which lies in their influence on the actual situations of the present. But the real historical interest develops late in the average student. It is the problems of the present which concern the immature mind. Hence industrial facts that are past, that involve directly no present human interest are proverbially dry. Moreover, the Historical method is to be condemned for lacking definiteness of conclusion. The youthful mind demands definite explanations of problems. But the Historical method does not in general attain to principles. Its fault in this respect is diametrically opposite to that of the Classical method. The one teaches conclusions without facts, the other teaches facts without conclusions. In either case interest is wanting.

But interest need not be wanting. The study of the industrial life is not inherently lacking in attractiveness even in its most prosaic aspects and objects. Corn, pork, steel rails, even pig iron may have a vital interest, a charm, for one who has

<sup>1</sup> And here we find explanation, not only for the lack of student interest in economics, but also for some of that positive dislike and distrust with which practical men are apt to regard the science. Whatever mild interest in these formulæ acquired with the knowledge of the facts the college graduate may retain, it almost inevitably turns to dislike when the first rough contact proves them in his hands of no avail, while manipulation of these formulæ by college-bred men whose actual knowledge of industrial life is nil, but who assume, nevertheless, on the basis of these formulæ to teach practical men the meaning and consequences of their activities, produces in the minds of many a distrust of all economic study.

been led by wise instruction to discover the part they play in his own life and in the organic life of society. But to interest the student, we must awaken his activities and bring home to him the question of economic life as personal issues. Starting with the simple and concrete he must be made to discover for himself the facts and movements of economic life and under guidance to work out their relations and significance as problems of his own creation. He must be made to observe effects, and from them to work back to cause. He must not be overwhelmed by fact or theory, but on the basis of his own discoveries be led to work out step by step the principles that govern the economic world. It is thus that the Empirical method proceeds. Only thus will the facts, the movements, the forces and the theories of economics really and vitally mean anything to him. Only thus, by harmonizing the instruction with the method of the science, can we arouse in the average student that deep and abiding interest in economic life which is necessary to put him in the way of acquiring a complete scientific knowledge of the economic organization of society.

3. The third Specific criterion of economic instruction demands that the method employed give the student a thorough training in reasoning from economic data. Without such training the student evidently stands powerless in the presence of economic phenomena, his knowledge of economic life is a mere mass of disjointed impressions and erroneous influences; he is debarred from the possibility of acquiring any scientific understanding of the economic organization—in the classical phraseology he must remain untrained and subject to the influence of emotional agitators. No method of instruction, then, can be judged adequate which fails to give this training to the student.

Yet neither the Historical nor the Classical method seems calculated, on close inspection, to train the student to reason from actual economic data. The Historical method avowedly makes training secondary to the purpose of imparting information. As we have said, it is founded upon the idea that our knowledge of economic facts is not yet great and unequivocal

enough to allow of the construction of principles. In this attitude, it is true, there is something to be recommended. It cannot be too strongly emphasized that the power to reason with validity upon economic problems cannot be obtained except through an intimate knowledge of facts. But the ignorance of fact which may make it as yet impossible for us fully to work out the broad principles which underlie the economic structure of society need not and should not prevent us from training our students to reason upon the results of economic facts and forces so far as we are aware of them.

But even this training the Historical method does not really give. It is true that it may aim to exhibit to the student, so far as possible, the facts and forces that have entered causally into actual economic phenomena, and to estimate the causal value of these facts and forces. But it is altogether with the phenomena of the past that it deals, and it must be borne in mind that social causes do not act in definitely recurring groups, and that the causal values of many economic forces are not absolute, but relative. While it is undoubtedly helpful to the student to have unfolded before him the subtle working of economic forces in situations and problems gone by, this information neither exercises his own reasoning powers nor teaches him to know and causally evaluate the economic forces underlying present problems. For economic problems are not logical in the sense that they are capable of deductive solution from a few general principles, but rather they are psychological in the sense that they are determined by a subtle play of motive and activity, nor are all the data of the present, though they have grown out of the past, the same in kind or in causal significance. The Historical method, in fact, lacks the prime essential as a means of training in that it cannot put the student face to face with an actual problem, the solution of which he must work out for himself through the actual data concerned. Thus only in a formal way can it teach him to discriminate the essential from the inessential, and to know and weigh those varied psychological facts and forces which are most potent causally in molding

economic affairs. Even when it sets its students independently to the solution of economic problems, it can at best furnish them merely with a selection of evidence about the facts, but wanting contact with facts themselves, the actual institutions, the motives, the real environment, and the play of subjective forces, the training is mechanical and inadequate. But even such training it is not a prime purpose of the Historical method to give. Its immediate aim is distinctly descriptive.

Turning now to the Classical method of instruction, we find that, superficially at least, it avoids the errors of the Historical method, judged by the criterion of training. The classical method has a distinctly practical aim; it avowedly deals with the present, and it lays special emphasis on the necessity of training the student in the ability to reason. Still, we shall find that in reality it fails almost equally with the Historical method to equip the student with practical economic reasoning power. The prime error of the Classical method lies in this, that the training which it gives is almost entirely formal and deductive. It assumes, as we have already said, that economics is a science of normalities. As such its essential data are already in our possession, its principles already worked out and ready to apply to the specific problems of the economic world. It aims, therefore, first, to put the student into possession of the definitions and rules of normality which the economists have assumed to establish, or, as the phrase runs, to ground him in sound economic principles; and, secondly, on the basis of these principles derived from the lectures or text-book, to have him solve the problems of everyday affairs, using such facts as he may possess and such as may be easily imparted to him to illustrate the correctness of the principles and the solutions. Now, that this method gives to the student a superb training of a certain kind is perfectly evident, but that it gives him much real training in economic reasoning must be strenuously denied. The arguments in criticism of the Historical method apply here with equal force. Economic results are not the outcome alone of a few fixed laws of nature and human nature. They are the result of kaleidoscopic

play of forces, objective and subjective. To reason from economic cause to effect you must know intimately and be able to estimate the significance of the actual living facts of the problem with which you are concerned. Without this intimate knowledge of facts, economic reasoning degenerates into mere mental gymnastics. By the Classical method the student gets no training in dealing with actual causes and effects; he does not observe actual effects and reason back to the causes, probing the problem till every factor, objective and subjective, has been brought to light and its force estimated; nor does he come into actual contact with facts and reason forward to results, estimating the modifying influence of extraneous forces; instead he accepts principles and facts at a normal valuation as the student in mathematics accepts rules and figures, and in the class room, quite in the mathematical method, manipulates these principles and facts to conclusions which are perfectly logical but have little to do with life. Confront a student so trained with actual facts of economic life, facts which contradict his conclusions, and he can only repeat and manipulate his formulæ and end by casting the troublesome facts into the convenient limbo denominated "obstructions to normal action." And while this method leaves the student essentially ignorant of actual economic facts and forces and untrained in the ability to probe out these facts and forces, and to estimate their actual causal values—ability absolutely essential to valid economic reasoning—it is apt to engender in him, when it does not thoroughly impress him with the unreality of his discussions, a narrow positiveness, an assumption of knowledge and an inflexibility which go far to unfit him for acquiring real economic reasoning power, and cause the practical world to look with suspicion on all economic instruction.

But even were the criticisms which we have brought to bear against the Historical and Classical methods laid aside, these questions would still recur: Why should we confine ourselves to seeking the records of the past, or, why conjure up artificial and unreal conditions in order to give training in

economic reasoning power, when the world about us is crowded with actual life problems of economics from the simplest to the most complex? Only the demonstrated impossibility of deriving training from the actual problems would be a valid answer to these questions. But as a matter of fact, the method which proceeds on the basis of these problems actually avoids, from the standpoint of training, the errors, and combines the merits of its rival methods. Starting with the simple facts of economic life and systematically leading the student through the complexities of the forms and processes of industry, it gives him a discriminating knowledge without which economic reasoning can reach no true and practical results. And while it thus brings the student at once into contact with the facts of actual life, insisting upon the necessity of an intimate knowledge of the economic system as a basis for the formal study of economic principle, neither does it neglect the actual training of the student in reasoning power, nor does it introduce any artificial separation between the study of fact and causation. Rather as he is led gradually to discover the facts and forces of economic life, he is also led step by step to discover and work out its problems, since in actual life the two are inseparable. Thus his drill in reasoning since it ultimately includes the problems of every phase of economic life equals in amount that given by the Classical method, but there are these essential differences—there he deals with formal logic, here with actual economic forces; there he is given final causes or principles from which he deduces results, here through contact with results, through observation of environment and motive, he works to general causes. The first method sharpens the wits, the second sharpens the wits through training the student to reason from actual economic data.

4. If the student is to be put in the way of acquiring a complete scientific understanding of the economic organization he must be taught to avoid the danger of inference and generalization on the basis of insufficient economic data. On account of the complexity of the economic organization

and the variety and subtlety of the forces at work in it, this is an ever-present danger. Hence adequate instruction in economics must give the student such a wide and systematic acquaintance with actual economic facts, as will thoroughly guard him against this *bête noir* of the science. Nor is the necessity of this knowledge of fact less apparent if we adopt for a moment the classical point of view and consider that a prime object of economic instruction is to give the student the ability to pass judgment upon the economic validity of individual action and public policy. Whether, for example, a student seeks to determine the scientific significance or the practical utility of an industrial act, he must not only be able to draw conclusions based on the general laws of nature and human nature, but he must have an intimate knowledge of the variable facts and forces within the industrial field concerned. He must know the nature and extent of the industries affected; the place they occupy and the part they play in the economic organization; whence they draw their materials and the industries which subserve them; the industries which they in turn subserve and the character and extent of their markets; the organic relations between employers and men; the legal institutions affecting these relations; the objective conditions of the life of the people affected, and besides these and other objective facts, the people themselves, their economic ideals, beliefs, motives, and habits; in short, their economic psychology.

Our previous discussions have incidentally shown that the Classical and Historical methods of instruction are not calculated to give the student this adequate knowledge of actual economic facts and forces. The primary aim of the Classical method, to ground the student in sound doctrine, unfits it to serve as a medium for giving to him this knowledge, and its unfitness in this respect is emphasized by the fear which it implies that the contact of the student with the actual facts of life before he is saturated with principles of normality may confuse him or lead him into unsound inferences. On the other hand, while the Historical method aims to impart information, knowledge of past

events is manifestly not the information primarily needed by the elementary student. This is so, not only because the knowledge of facts and forces given by this method cannot be sufficiently intimate and complete but also, because the facts and forces are not those with which he has primarily to deal in solving economic problems which confront him.<sup>1</sup> Moreover, it is not so much of what men do as of what they feel and of what they think that is of supreme importance, and this knowledge cannot be obtained from books which deal either with the past or with the present; but only through this knowledge can the facts and movements of economic life be really interpreted. Only thus can we avoid narrowness and prejudice and that naïveté characteristic of those who are trained in the explanation of the unknown. If any further proof were needed of the failure of the older methods to give the student an adequate fund of knowledge, it is found in the results of past economic instruction. The narrowness of the classical training is indicated by the attempt of the economists to solve the problems of all countries by the experience of England regardless of the profound differences in institutions, industrial advancement, environment, and folk-psychology. And the ignorance of fact that led to this crude attempt is by no means a thing of the past. The universities still turn out economists of the closet, and there is a strong tendency among the younger economists, under the influence of the Austrian school, to make the elementary instruction still more theoretical, to approximate the mathematical demonstrations of principles, and to minimize the illustration by facts which was a saving virtue of the old Classical method.

The condemnation of the Classical and Historical methods does not, of course, establish the validity of the method advocated in this paper. Independent proofs are required that it can accomplish what they have failed to do. These proofs cannot,

<sup>1</sup> Of course it is understood that a complete scientific understanding of the present cannot be had apart from its relation to the past, but, as has been indicated in section II of this paper, the study of genesis is a later division of the science and belongs to a more advanced stage of economic instruction than we are here considering.

of course, be positive for they cannot as yet be derived from experience. Such as they are, however, they have been brought out in our previous discussion. By placing the student at once into contact with men and things, and wisely guiding him through the intricacies of economic form and process, this method should put him in possession of such an intimate knowledge of economic life as to preclude narrow positiveness, emotional delusion, prejudice, or naïveté.

But while this method is thus seen to be theoretically unassailable, it will undoubtedly be subject to two practical lines of criticism from the standpoint of this last criteron. It will be pointed out first, that the immature student who is thus divorced from text-books and from positive guiding formulæ, will be unable to exercise proper discriminating power, but will see about him only a confused mass of industrial details in which he will become hopelessly swamped. This criticism would undoubtedly be valid were the method proposed aimless or unsystematic or were the student supposed to carry on his investigations unaided, or guided by an untrained instructor. The Empirical method however, as here conceived, has as we have shown an aim quite as definite as the Classical and seeks to attain this aim in a thoroughly systematic manner. The difference between this method and the Classical is not that the one teaches, while the other ignores, the principles of economics. The difference is rather one concerning the conception of the nature of the principles and the best method of imparting them. While the Classical method is content to lay down principles of an artificial organization based on an arbitrary conception of normality making occasional excursions among the facts for illustration, the Empirical method guides the student through a study of the actual facts to the principles of the actual economic organization. On the other hand, it is freely admitted that for the success of the method the general type of instructor must be raised; that no man who possesses a mere book knowledge can teach by the laboratory method. But it would be absurd to contend that a properly trained instructor is inferior to a

text-book guide. The criticism, therefore, from any standpoint falls to the ground.

The second line of criticism is more vital. It will undoubtedly be contented that the industrial system is too vast and intricate to be studied as a whole by the Empirical method in the time allotted to economic instruction and, therefore, this method will result in giving the student merely a partial view, which will leave him without that well rounded knowledge of the whole, essential to an understanding of the economic organization. This contention cannot be cavalierly dealt with, but in reality it resolves itself into a criticism of the college curriculum, rather than the Empirical method or, perhaps, into a criticism of all college instruction. It is perfectly true that we cannot expect to do in the college what may require years of experience to accomplish. But to be valid in this connection the criticism must be taken in a narrower sense. It must compare the possibilities of the Empirical method with the possibilities of all other methods. Now we have seen that no other method gives at all that intimate knowledge which we are seeking. Grant for the sake of argument that the Empirical method cannot thoroughly equip the student with such knowledge, still it is certainly better that he have an intimate knowledge of part of the industrial system than none at all. If the study has been systematic, it should give to the student the interest and ability to complete his knowledge after the specific course of study is passed. Having acquired the method he will be independent of guidance. Finally, the same difficulty of incompleteness attaches to the laboratory work of all biological sciences. This criticism is therefore a criticism of the Empirical method in general.

On the whole then the Empirical method here advocated seems to be justified from the standpoint of practical efficiency.

## V.

We have now considered the scientific and practical reasons which underlie the propositions : that adequate economic instruction must give to the student an intimate knowledge of the

economic structure of society ; that adequate economic instruction must proceed from a knowledge of economic structure to principle rather than from a knowledge of economic principle to structure ; and that in the study of economic structure personal observation and inference from the facts, must to a large extent supersede the instruction by means of text-books and lectures. In order to give practical value to our discussion it remains to offer some suggestions in regard to actual economic study in harmony with the Empirical method which these propositions imply. The essence of the Empirical method, as the term has been used in this paper, distinguished from the Classical and Historical methods, lies, as we have seen, in these points : that it keeps the student in close contact with the facts ;<sup>1</sup> that, so far as possible, it leads him to do his own investigating, explaining and constructing, and that it aims to approach the study of economics from the side of the business man's activity. The writer does not underestimate the difficulties connected with carrying out in practice an adequate plan of such empirical study in the field of economics. To be successful, such study must above all things be systematic, otherwise the student will be left in a state of confusion and will be likely to conceive an unconquerable distaste for the subject. Instruction, therefore, in accordance with the empirical method must follow a carefully prepared topical outline, which, in turn, must be based upon a careful analysis of the economic organization in terms of the economic process, the forces which condition it, and the institutions engendered by the economic activity of man. With a full realization of their inadequacy both as to form and extent, the following analysis and topical outline are offered as tentative suggestions in the way of a beginning :<sup>2</sup>

<sup>1</sup>In actual economic study the terms observation and contact must be rather broadly construed. Many of the facts of economic life are intangible, many exist only as legal institutions, others are accessible to the student only through records. The work of observation therefore must include, beside the study of facts absolutely at first hand, the study of records, statistical and descriptive.

<sup>2</sup>The working out of a perfectly satisfactory plan of study must, of course, be a matter of time and experience. We lack, as yet, a thorough understanding of the economic structure viewed as an organic whole from the standpoint of the business situation.

## A. ANALYSIS.

## I. THE ECONOMIC ORGANIZATION.

The economic organization may be described as an economic structure composed of institutions, the direct product of human activity, animated by the economic life process, the whole conditioned by general physical and psychological environment. Or it may be described as the economic structure functioning. As such, the economic organization has so far the characteristics of an organism that its parts are definitely and organically related both as to structure and function, and that any force affecting it through one part or organ may produce a functional effect throughout the whole organization.

## II. THE GENERAL PHYSICAL ENVIRONMENT OF THE ECONOMIC ORGANIZATION.

The physical conditions of the economic organization are resident in the constitution of the physical world generally, including man. These conditions are manifest in climatic characteristics, the composition of the air, the chemistry of the soil, the precipitation of moisture, the distribution of continents, oceans, mountains, rivers, forests, physiological energy, etc. In most of its phases this physical conditioning environment is fixed, as in the case of diminishing returns from land. To a certain degree, however, it is subject to modifications, as in the case of the chemistry of soils, rainfall of districts, and the creation of varieties of food products. So, to a great extent, also, the economic conditions of physical environment are subject to progressive discovery and adaptation to use, as, for example, in the discovery and adaptation of steam power, and the progressive improvement of machinery.

## III. THE GENERAL PSYCHOLOGICAL ENVIRONMENT OF ECONOMIC ORGANIZATION.

The general psychological conditions of the economic organization are resident in the mental constitution of the individual as such, and in what may be termed social or folk-psychology. The economic psychology of ordinary individuals tend under similar circumstances to be uniform. This uniformity is increased and enforced by the characteristic psychological peculiarities of the folk, which are found crystallized in legal enactments, customs, traditions, etc. The result is that the economic structure and the process that goes on in it are conditioned by a fairly well-defined and uniform psychological environment, subject, however, to cumulative change.

## IV. THE ECONOMIC STRUCTURE.

The economic structure is composed of economic institutions in organic relationship. The institutions of the structure may be considered as organized primarily as economic units, which are the product of the activity of

individuals united for a common economic purpose. The economic units are relatively distinct functional wholes, as, for example, the business corporation and the industrial town. But these units as a mere aggregate of individuals do not constitute the economic structure. They are units in intercourse, *i. e.*, in organic connection, and the intercourse of the units constitutes markets. Markets, then, may be considered as a secondary institutional manifestation in the economic structure.<sup>1</sup> The economic structure is, therefore, properly described as composed of the economic units in market relationship.

#### V. THE ECONOMIC PROCESS.

The economic process may be described as a system of activities maintained by the economic units within themselves and in and through their market intercourse with each other. These activities we may, for convenience of exposition, classify as (*a*) internal unital activities, which may be said to constitute the industrial process, and (*b*) activities of unital intercourse, which we may term the pecuniary or market process. The industrial process consists of (1) the destruction of utilities, and (2) the creation of utilities.<sup>2</sup> The market process consists of (1) the exchange of utilities, (2) the distribution<sup>3</sup> of utilities. An epitome of the economic process in its relation to the economic structure may serve to elucidate this analysis. Let us suppose the economic process stopped at a point where all utilities created by economic units have been finally placed in the market. The second process of unital intercourse—distribution—will now take place and through the market machinery the utilities will all be placed or potentially placed in the possession of those units and individuals within the units, who are finally to destroy them. The utilities thus distributed will then be consumed by the individuals in activity in the economic units.<sup>4</sup> This consumption will cause and be accompanied by the process of creation of utilities. The utilities created will then pass into the market, and the first process of unital intercourse—exchange—will begin, *i. e.*, the new set of utilities created will be placed in the market, thus completing the cycle.

<sup>1</sup> The separation of the institutions in the economic structure into units and markets is arbitrarily made for purposes of description. Absolutely considered, no such separation is possible, since market functioning is in reality a phase of unital activity.

<sup>2</sup> This statement will not be found on analysis to contradict the ordinary notion that utility is created in exchange.

<sup>3</sup> Distribution is here used in the ordinary technical economic sense.

<sup>4</sup> This consumption will take place strictly by the individuals themselves, or, if the individuals are represented in the unit, by material means of utility creation. Consumption which is carried on by individuals not in some way represented in unital activity can hardly be considered a part of the economic process.

## VI. THE ECONOMIC UNITS.

The economic units, as we have said, are the product of the activity of individuals united for a common economic purpose. The units of the economic structure are most intricately related. Not only is this true in the intercourse of units as such, but also in the structure of the units themselves. The activities of the same individuals often function in different units. The units are often mutually overlapping and inclusive. However, under all circumstances each unit is functionally distinct. The mechanisms of the economic units consist of that body of arrangements and machinery commonly spoken of as industrial devices. We shall consider the units of the economic structure in their organic order.

1. THE BUSINESS UNIT.—The business unit is the primary result of the united economic activity of individuals.

a. *Form of the business unit.*—The business unit may consist of one or any number of individuals, economically co-operating. Analytically considered, it is always a union of individuals representing employers, laborers, capitalists, and land-owners, so organized as to secure the greatest industrial efficiency, *i.e.*, the greatest advantages from division of function, division of labor, etc.

Business units may be classified according to particular forms as follows:<sup>1</sup>

(1) Single entrepreneur unit.	(4) Co-operative unit.
(2) Partnership unit.	(5) The family unit.
(3) Corporation unit.	(6) The government unit.

b. *The function of the business unit.*—The typical function of every economic unit is the destruction and creation of utilities. Business units may be classified according to specific function as follows:<sup>2</sup>

(1) Units organized primarily to render personal service.
(2) Units organized primarily to extract material utilities from physical environment.
(3) Units organized primarily to transport material utilities.
(4) Units organized primarily to transform material utilities.
(5) Units organized primarily to transfer material utilities.
(6) Units organized primarily to consume material utilities.

2. UNITS OF THE SECOND ORDER.—The town unit, the trade unit. The business units resulting from a union of the activities of individuals are mutually dependent and unite to form larger and more complex units. The primary union or co-operation of the business units gives results in two kinds of units of the second order.

<sup>1</sup> See BULLOCK: *Introduction to the Study of the Economics*, ch. VI.

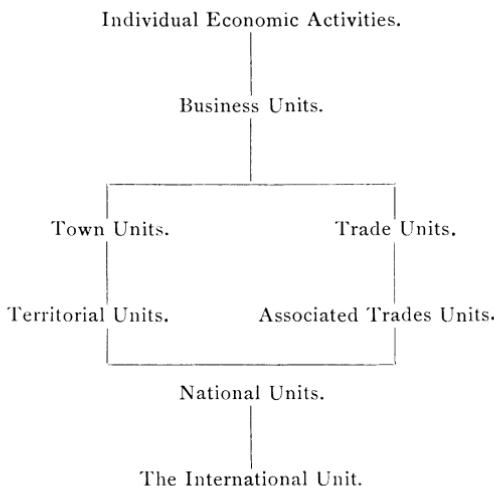
<sup>2</sup> See THURSTON, *Economics and Industrial History*. p. 45. Each of these classes, except the last, may be further subdivided according to the particular utilities with which they are concerned.

- a. *The town unit.*—Business units unite according to location to form the town unit. This is an industrial center, an area within which is a concentrated aggregation of business units especially characterized by the great proportion of transforming, transferring, and service units. Surrounding this aggregation are scattered units mainly extractive, while these scattered units are held in communication with the concentrated units by transporting units. The town unit is roughly marked off from the outside industrial world by the mutual dependence and co-operation of its business units. Within it certain characteristic utilities pass through all the phases from creation to destruction. Other characteristic utilities it creates for other territorial units, and still others it receives from other territorial units and destroys. Functionally it serves to protect, facilitate, and enlarge the activities of the business units within it, especially their market activities.
- b. *The trade unit.*—Business units of a single occupation form what may be termed a trade unit. Business units unite then to form as many trade units as there are distinct kinds of business. The organic character of the trade unit is indicated by the fact that the business units of the whole trade tend to be affected at once by any given general cause, and that a specific cause producing an effect on one or more business units within the trade tends to affect successively the units of the trade as a whole. The function of the trade unit is in the main the aggregate of the functions of the business units composing it. However, it also, like the town unit, facilitates the activities of these units.
3. **UNITS OF THE THIRD ORDER.**—Associated town or territorial units. Associated trade units.
  - a. *The territorial unit.*—The territorial unit is an aggregation of mutually dependent and industrially co-operative town units. Structurally and functionally it is analogous to the town unit. It is more nearly a self-sustaining whole.
  - b. *The associated trades unit.*—The trade units unite to form associated trades units. Certain trades or industries seem to be industrially fundamental, in the sense that upon or about them is built up a group of related trades dependent upon the fundamental trade for supplies. Again, certain trades seem to be final in the sense that a related group of trades contributes the material means for its activity. Or, again, a trade is fundamental in the sense that a group of trades is dependent on it for securing the means of organization and production or for the marketing of products. Examples of fundamental trades are the steel industry, banking,

etc. The interests of the separate trades and of the separate business units in these associated trades units tends, on account of these organic connections, to be identical. They tend, therefore, to act together and are affected all together by specific causes, acting on the fundamental or final trades, while general causes tend to affect all alike.

4. **THE NATIONAL UNIT, OR AGGREGATED ASSOCIATED TRADE UNIT.**—Territorial units and associated trade units unite to form national economic units. National units are sharply marked off by distinct economic characteristics, dependent on climate, soil, folk-psychology, etc. They contain within themselves practically the whole machinery of economic life, and are capable of functioning as complete economic organizations. The function of the national unit is the function of the town unit, enlarged and extended.
5. **THE INTERNATIONAL UNIT.**—Between national units there is a certain amount of mutual economic dependence, co-operation and competition, the extent of which is shown in international finance, foreign trade and the exchange of industrial ideas and processes. This gives us the beginnings of an international economic unit or organization.

The following diagrammatic outline may perhaps be of assistance in bringing out the structural relationship of the economic units :



#### VII. MARKETS AND MARKET MECHANISMS.

The intercourse of economic units constitutes markets. Market activity therefore is a phase of unital activity or function, but it requires combined unital activity to produce a market. Markets are then economic institutions,

whose function is the exchange and distribution of utilities resulting from individualistic unital activity. Wherever there is unital intercourse relative to any utility there is a market. The markets therefore for any type of commodity may be innumerable and any individual utility may have markets among all of the unital orders, *i.e.*, interbusiness markets, intertown markets, international market, though strictly speaking the market activity of the higher unital orders is the activity of the individual business units composing them. The market process in exchange and distribution is essentially the same. It consists of a subjective comparison of utilities by the representatives of the units concerned, resulting in an exchange rate called value, and transference of ownership of utilities at the agreed rate. The market mechanisms by which this process is carried on are then partly subjective and partly objective. The objective machinery consists essentially of money and evidences of the utility credit. There is also much adventitious machinery, especially in the distribution of utilities. Specially important in effecting this process are associations of employers of labor and associations of laborers or labor unions.

Such being the economic organizations, the plan of study which aims to interpret this organization in terms of cause will but approach the subject from the side of economic activities working in and through the business units.

## B. OUTLINE.<sup>1</sup>

### I. THE ECONOMIC PROBLEM.

If the work is not to be altogether descriptive, the student must be led at the outset to some general statement of the economic problem; *i.e.*, he should be led to discover the general economic problem to be the satisfaction of human wants through utilities produced by economic activities working with material means.

### II. THE TERMS OF THE ECONOMIC PROBLEM.

The next step in instruction should be to lead the student by means of actual problems, so far as possible personal, to an understanding of the terms of the economic problem. This will involve the examination of—

<sup>1</sup> The writer does not make any special claim for this particular outline. As stated before, only abundant actual experience can guide us to a perfectly satisfactory plan of study by the Empirical method as conceived in this paper. The essential thing is that the spirit of the method be grasped by the instructor and that he have in mind a clear analytical view of the economic organization from the standpoint here defined. At present each well-equipped instructor who should adopt this method would probably make a different outline after experience, and the outline of each might be best in relation to the circumstances under which he was teaching. One great excellence of the method is its adaptability.

1. Economic wants.
2. Utilities.
3. The methods and laws of the satisfaction of wants by means of utilities.
4. Economic individuals.

### III. THE GENERAL ECONOMIC ENVIRONMENT.

It is a natural and logical step from the statement of the economic problem and the examination of its terms to a consideration of the general environing forces which condition the working out of this problem.

1. **THE GENERAL PHYSICAL ENVIRONMENT.**—Let the student work out a classification of the materials and forces constituting the physical economic environment under such headings as climate, soil, etc., and in the solution of problems discover the conditioning characteristics and effects of each class of materials and forces. This study will bring out such results as the law of diminishing returns, etc.
2. **THE GENERAL PSYCHOLOGICAL ENVIRONMENT.**—Through involving the student in problems of a personal nature he should now be led to the fundamental motives in the individual economic agent and to the fundamental customary and legal institutions which condition his economic activity; such as private property, competition, etc. The general extent to which these institutions actually avail should, of course, be considered.

### IV. THE BUSINESS UNIT.

The study thus far may all be considered as introductory to the consideration of economic activity. This subject may best be approached from the side of the business unit.

1. **STRUCTURE OF THE BUSINESS UNIT.**—Through the examination, so far as possible of actual business units, the student should be led to determine,
  - a. *The character of the individuals who compose the business unit.*—He will be led, of course, to the familiar classification into laborers, owners of capital, owners of land, and managers. These individuals may be studied in such a way as to involve consideration of the Malthusian law, saving, etc.
  - b. *The organic relationships of the individuals in the business unit.*—This will show the general business structure; *e.g.*, laborers, holders of capital and land, in subordination to the organizing and directing undertaker.
  - c. *The specific types of business units.*—Through the examination of business units from the standpoint of organization, the specific

structural types (*i. e.*, the single entrepreneur unit, partnership, corporation, co-operative unit, family unit, government unit) may be brought out. The structure of each one of these types should be studied as to cause, taking, if possible, actual examples for examination.

- d. The institutions governing the structure of business units.*—This will involve a study of legislation and custom conditioning the formal relationships of the individuals in the unit; such as employer's liability, factory legislation, etc.
- 2. THE FUNCTION AND ACTIVITIES OF THE BUSINESS UNIT.**—From form the student will naturally turn to function.

  - a. General function of the business unit.*—Let the student examine actual business units and discover that they are engaged in general in the destruction and production of utilities.
  - b. Specific classification of business units according to function.*—From the examination of business units in different occupations the units may be classified according to specific functions, giving personal service units, extractive units, transporting units, etc. The study may well be carried on under this head through the use of problems bearing upon the production of utilities.
  - c. Functions of specific classes of business units.*—Next let the student determine the functions and activities of each class of individuals organically connected with the business units, *i. e.*, laborers, capitalists and landlords (as represented by capital and land) and undertakers (in so far as their duties strictly within the unit as organized are concerned). This may be done with actual examples of the different classes of units, so far as may seem practicable.
  - d. Institutions conditioning the function of business units.*—The study of the activities of business units as such may be then completed by an examination of the institutions which condition their activity, both internally and in their external relations.

#### V. MARKETS.

The examination of unital intercourse falls logically into the study of market structure and activity.

- 1. MARKET STRUCTURE.**—The study of market structure may proceed on the same general plan as the study of the structure of the business units, *i. e.*, through the examination of markets and market problems the student may be led to determine,

- a. The market individuals and their character.*—The student will here be led to discover that the business unit is the constitutive individual in the market.

- b. *The organic relations of market individuals.*—The organic relationships of the individuals in market intercourse should be studied in such a way as to bring out a definition of the market and the general subjective market conditions such as knowledge of the state of supply and demand, etc.
- c. *The objective market types or organizations, e. g.,* shops, fairs, city exchange organizations, etc.
- d. *The subjective types of market organization, e. g.,* retail, wholesale, and speculative markets, etc.
- e. *Market institutions governing structure.*

2. MARKET FUNCTION AND ACTIVITIES.—This study logically follows and should be considered under the following heads :

- a. *The general market process—value.*—The subjective processes determining value should be brought out through a study of problems and examples, and both competitive and monopoly value should be carefully considered.
- b. *The general mechanisms of the market process.*—The mechanisms used in the above determination of value and in the transfer of utilities are (1) money and (2) *credit*. The student should accordingly take up the problems of money in connection with practical problems of the market. The study should include the classification of credit devices, a consideration of their origin and use through banks, clearing houses, etc.
- c. *Classification of market functions.*—The study of actual market problems will bring out the division of general market function into two processes : (1) exchange, (2) distribution.

(1) Exchange.

- (a) Specific classification of exchange markets.—Exchange markets may now be studied and classified according to specific function into retail, wholesale, jobbing, speculative markets, etc. The actual operations and problems in each of these markets should be examined. This may be done by taking typical utilities and tracing their market history, as for example, nails, corn.
- (b) Institutions governing exchange.—Let the student discover the legal enactments and customs that condition the processes in the various exchange markets.

(2) Distribution.

- (a) Specific classification of distributive markets. As in the case of exchange markets, distributive markets may be studied and classified according to the specific function into markets for the determination of (α) wages, (β) interest, (γ) rent, and (δ) profits.

- (b) The specific distributive processes.—By means of actual observation and problems let each of the specific processes of distribution be studied.
  - a. The determination of the value of labor or wages.
    - (a) The objective process of fixing the value of labor.
    - (b) The special mechanisms and forces conditioning the process of fixing wages. This will involve studying the standard of living, trade unions, their demands and methods, capitalistic associations, etc.
  - (γ) Institutions conditioning the process of wage determination, *e. g.*, legal enactments, customs, habits, etc. This study should bring out some consistent theory of present wages.

On the same general plan should be studied :

- β. The determination of the value of capital ownership, or interest.
- γ. The determination of the value of land ownership, or rent.
- δ. The determination of the value of undertaking ability, or profits.

## VI. THE GENERAL ECONOMIC PROCESS.

As a general review and to give a connected view of the economic process which has been thus far arbitrarily separated for convenience in study, the economic process as a whole may now be studied. This may best be done by tracing the actual life history of typical utilities through the productive process, the various markets, speculative, jobbing, wholesale, retail, etc., the distributive and the consumptive processes.

## VII. INDUSTRIAL AND PECUNIARY INTEGRATION.

Thus far the student has been led to a consideration merely of business units in the economic organization in their individual and market activity. He must now study the forces that determine the organization of business into higher economic units and the results of these forces in economic integration.

- 1. THE CAPTAIN OF INDUSTRY.—As we have said in Part II of this paper the most potent formative force in the economic organization is the business man or captain of industry. Economic integration may then be best approached through a study of the activities of the captain of industry.
  - a. *Specific classification of captains of industry.*—Through a consideration of business activity the student should be led to classify

captains of industry as business managers, bankers, promoters, etc. The activities of each class of captains should be studied.

(1) The business manager.—Taking actual examples of business managers the activities of this class of captains may be studied according to the following scheme:

(a) Choice of business to be prosecuted.

(b) Choice of alternative methods or process of prosecution.

(c) Organization of the business unit, *i. e.*, the bringing together of the individuals composing the business unit and determination of their relations.

(d) Organization and superintendence of the unital industrial process. This will involve a minute examination of specific businesses bringing out problems of departmental arrangement, gradation of superintendence, fixing of responsibility, checks, division of labor, etc.

(e) Purchase and sale. This will involve a close examination of the organization of specific businesses showing how purchase and sale departments are organized and conducted and the activities of the manager in the market.

(2) The banker, the promoter, the financier, etc.—The integrating function of banks is of great importance and deserves careful study. By actual examples the operations of banks, in so far as they assist, by loans, etc., the captain of industry in the conduct of business or market enterprises should be studied. This will involve the study of problems of financing loans, floating stocks, etc. In this connection the activities of various classes of promoters and financiers should be studied so far as possible by contact.

2. EXPANSION OF BUSINESS UNITS.—By examination of actual examples so far as possible the phenomenon of large industry should be studied from the standpoint of cause and economic result. This will involve: 1) the study of the aggregation of related industrial processes under a single business management, and 2) the aggregation of business units into larger wholes, commonly called trusts, with the obvious problems connected with these manifestations.

3. INTEGRATION OF BUSINESS UNITS.

a. *The trade unit.*—The student should take up particular trades and examine business units belonging to them in different places, especially with regard to their market activities, and in this way delimitate trade units. The test of the extent of a trade unit

will be the trade area over which similar effects result from common causes. The organic nature of trade units should be brought out by tracing out the general trade conditions resulting from given causes, and by taking as problems to solve general trade conditions, *e. g.*, trade depression. The function of the trade unit in facilitating the activity of the business units composing it should also be studied through specific examples.

- b. *The associated trades units.*—The student should next be led to discover what we have called in the analysis fundamental and final trades, and to delimitate the associated trades units constructed upon them or about them. This can be done by tracing final utilities in each group through the various stages of creation and exchange in and between the business units of the group. The principle of association or integration which binds the trades together should be carefully determined in each case. The organic character of the associated trades units can be brought out by tracing the effects throughout the group of single causes and *vice versa*. The attempt should be made to discover, analyze, and tabulate all the associated trade units in a territorial or natural unit. Careful study of associated trade units will make it possible for the student to understand the general effects of economic causes and the causes of general economic effects, *e. g.*, tariffs, crises, industrial depression, etc.
4. GENERAL ECONOMIC INTEGRATION.—For review, and in order that the integrating process and its results may be viewed as a whole, the student may take final utilities of various types and trace their life history so far as it is touched by the forces of integration.

### VIII. THE TERRITORIAL ECONOMIC UNITS.

Thus far the study has been to a great extent qualitative. In the study of territorial units it becomes more largely quantitative, but not less causal. To indicate sufficiently the method of study of these units, it will be necessary merely to mention a few illustrative topics under each.

- I. THE TOWN UNIT.—The town unit to be studied first is of course the one within which the economic study is being done. The area of the unit should be determined and mapped. Then the resources and products of the unit, the extent of production, the inter-unital trade, the external markets and the character and extent of the external trade, should be investigated. The economic reasons for the location and development of the unit, the economic reasons for the peculiar character and location of the various phases of the economic activity within the unit, etc., should also be determined. To

illustrate, such questions would be studied in Chicago as the economic reasons for the location of the city, for the character and extent of its manufactures and trade, from whence come its supplies, and where its markets are located, etc.

2. **THE TERRITORIAL UNIT.**—The study of the territorial unit would naturally follow on the same lines as the study of the town unit.
3. **THE NATIONAL UNIT.**—The economic study of the national unit would largely partake of the nature of commercial geography. The design should be to make the student acquainted with his country industrially—with the extent and location of its resources and with their exploitation. There should be studied causally the location and extent of its coal and ore beds and agricultural soils; the location of its fundamental industries; its trade routes and markets; the statistics of its occupations, products and trades, etc., illustrated by maps and diagrams drawn by the students.
4. **THE INTERNATIONAL UNIT.**—The study of the international unit would consist of a statistical and causal examination of the commerce and trade routes of the world, with special reference to the foreign trade of the home national unit in its extent, character, and location. The economic problems of international trade in general should be inductively studied and the reasons for the advantages and disadvantages of our own country given especial attention. International finance and foreign investment should also be causally and statistically considered.

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